

REMARKS

Applicant appreciates the Examiner's indication of allowable subject matter of Claims 5 and 6. As explained below, Applicants have rewritten these claims as new Claims 15 and 16, so as to overcome the §112 rejection, more clearly claim the invention and with a modification to the ranges. It is respectfully submitted that these claims are allowable as rewritten, and it is requested that they now be allowed.

Applicant will address each of the Examiner's rejections in the order in which they appear in the Office Action.

Claim Rejections - 35 USC §102

Claims 1-3

In the Office Action, the Examiner rejects Claims 1-3 under 35 USC §102(b) as being anticipated by Japanese Patent Specification No. 10-219230 A. This rejection is respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this application, Claims 1-3 have been canceled, rendering this rejection moot. Therefore, it is respectfully requested that this rejection be withdrawn.

Claims 1-2, 4 and 9

The Examiner also rejects Claims 1-2, 4 and 9 under 35 under 35 USC §102(b) as being anticipated by Japanese Patent Specification No. 2002-129151 A. This rejection is also respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this application, Claims 1-2, 4 and 9 have been canceled, rendering this rejection moot. Therefore, it is respectfully requested that this rejection be withdrawn.

Claims 1-3 and 9

The Examiner also rejects Claims 1-3 and 9 under 35 USC §102(b) as being anticipated by Crespo et al. (US 6,248,588). This rejection is also respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this application, Claims 1-3 and 9 have been canceled, rendering this rejection moot. Therefore, it is respectfully requested that this rejection be withdrawn.

Claim 1

The Examiner also rejects Claim 1 under 35 USC §102(b) as being anticipated by applicants own admitted prior art. This rejection is also respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this application, Claim 1 has been canceled, rendering this rejection moot. Therefore, it is respectfully requested that this rejection be withdrawn.

Claims 1-3

The Examiner also rejects Claims 1-3 under 35 USC §102(b) as being anticipated by Pinckernelle et al. (US 3,505,234). This rejection is also respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this

application, Claims 1-3 have been canceled, rendering this rejection moot. Therefore, it is respectfully requested that this rejection be withdrawn.

Claim Rejections - 35 USC §103

Claims 1, 3 and 9

The Examiner also rejects Claims 1, 3 and 9 under 35 USC §103(a) as being unpatentable over Japanese Patent Specification No. 57-029349 A. This rejection is also respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this application, Claims 1-3 and 9 have been canceled, rendering this rejection moot. Therefore, it is respectfully requested that this rejection be withdrawn.

Claims 1, 3 and 9

The Examiner also rejects Claims 1-3 and 9 under 35 USC §103(a) as being unpatentable over German Patent Specification No. 3415113A. This rejection is also respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this application, Claims 1-3 and 9 have been canceled, rendering this rejection moot. Therefore, it is respectfully requested that this rejection be withdrawn.

Claims 1-3

The Examiner also rejects Claims 1-3 under 35 USC §103(a) as being unpatentable over Kaes (US 5,853,610). This rejection is also respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this

application, Claims 1-3 have been canceled, rendering this rejection moot. Therefore, it is respectfully requested that this rejection be withdrawn.

Claims 1-4

The Examiner also rejects Claims 1-4 under 35 USC §103(a) as being unpatentable over Toth et al. (US 4,676,918). This rejection is also respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this application, Claims 1-4 have been canceled, rendering this rejection moot. Therefore, it is respectfully requested that this rejection be withdrawn.

Claims 1-4 and 7-8

The Examiner also rejects Claims 1-4 and 7-8 under 35 USC §103(a) as being unpatentable over Bloomer (US 6,080,330). This rejection is also respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this application, Claims 1-4 have been canceled, rendering the rejection of these claims moot.

With regard to Claims 7-8, Applicants have canceled these claims and generally incorporated the subject matter of these claims into new Claims 17 and 18 which are discussed below. As explained below, these claims are patentable over Bloomer.

Therefore, it is respectfully requested that this rejection be withdrawn.

Claim Rejections - 35 USC §112

The Examiner also rejects Claims 4-5 under 35 USC §112 second paragraph as being

indefinite. This rejection is also respectfully traversed.

While Applicant traverses this rejection, in order to advance the prosecution of this application, Claims 4 and 5 have been canceled, rendering the rejection of these claims moot. The subject matter of Claim 5 has now been generally rewritten as new Claim 15. This claim no longer has the objected to language therein. Accordingly, it is respectfully requested that this rejection be withdrawn.

New Claims

In order to advance the prosecution of this application, Applicant has taken the general subject matter of Claims 5 and 6 and rewritten them as new Claims 15 and 16 and taken the general subject matter of Claims 7 and 8 and rewritten them as new Claims 17 and 18. Applicant has done this in order to better and more clearly claim the present invention.

These claims are allowable over the prior art for at least the following reasons:

Claims 15 and 16

The Examiner has already indicated that the subject matter of these claims (i.e. from prior claims 5 and 6) is allowable. As explained below, dependent Claims 5 and 6 have now been rewritten as new independent Claim 15 and 16 to more clearly claim the subject matter of prior claims 5 and 6 with a small modification.

Claims 15 and 16 recite that the claimed cold storage agents are substantially obtained from two components, a main component and a low-quantity component, wherein the concentration of the main component is in a range of 10-25 wt%. For the two salt combinations in original Claim 5, the

concentration of the low-quantity component was $1/2 - 1/10$ that of the main component and preferably $1/3$ to $1/5$. In order to make this claim clearer, Applicant is rewriting it as $1/3 - 1/10$ of the main component. Experiments have shown that when the concentration of the main component is 25 wt%, the concentration of the low-quantity component should be $\leq 1/3$ that of the main component; while when the concentration of the main component is 10 wt%, the concentration of the low-quantity component should be $\leq 1/2$, whereas the melting point is clearer with $\leq 1/3$. Furthermore, if the concentration of the low-quantity component was $< 1/10$ that of the main component, the melting point of the mixture would be close to that of the single-component cold storage agent. Subsequently, the original range of $1/2 - 1/10$ has been amended to $1/3 - 1/10$ in Claim 15.

Applicant respectfully submits that new Claims 15 and 16 continue to include allowable subject matter and should be allowed at this time.

Claims 17 and 18

In the Office Action, the Examiner rejected Claims 7 and 8 under §103(a) as being unpatentable over Bloomer. As explained below, new Claims 17 and 18 are patentable over this reference.

More specifically, a cold storage agent made solely of CaCl_2 or MgCl_2 is known. Bloomer, however, is directed to an anti-freezing and deicing composition. Bloomer describes the composition of a mixture of 25-99% by volume desugared sugar beet molasses and 1-75% by volume of MgCl_2 or CaCl_2 , in water, in which the melting point is uncertain. Such a material is useless as a cold storage agent because it is not clear at which temperature it is frozen and at which temperature it melts. Since Bloomer is not directed to a cold storage agent, it is not necessary for the

anti-freezing agents in Bloomer to possess a clear melting point, and it is actually the purpose and the goal of the reference if freezing does not occur. Hence, with anti-freezing agents, a clear melting point is not important, and the reference is of no reference to the present invention.

The cold storage agent of Claims 17 and 18 of the present application have to, substantially, consist of two salts, a main component and a low-quantity component, and in order to achieve a lower or appropriate melting point, the concentration of the main component in an aqueous solution needs to be 10-25% by weight, and then a limited amount of another salt is added (as described below, $1/2 - 1/8$ the concentration of the main component). For example, the component is mixed in from $(10+10 \times 1/8) \sim 25 + (25 \times 1/2) \% \text{MgCl}_2$ and CaCl_2 by weight and from 63-89% water by weight. The claimed composition is not disclosed or suggested by Bloomer. Furthermore, even when a small amount of a third substance is present, the melting point should not be affected. Thus, original Claims 7 and 8 have been modified as new Claims 17 and 18 to clarify that the cold storage agents are substantially made of two components (MgCl_2 and CaCl_2), and to state a concrete melting-point range ($-34 \sim -40^\circ\text{C}$ from example 4 for Claim 17; $-44 \sim -48^\circ\text{C}$ from example 6 for Claim 18).

Applicant further notes that cold storage agents made of two similar types of salts, i.e., CaCl_2 and MgCl_2 , have a cocrystallization point when frozen based on the melting point of each salt. However, when a ratio of the two salts goes beyond a certain range, there is a large deviation in the cocrystallization point. This makes the melting point unclear, and such a cold storage agent is not useful. Therefore, in the claimed invention, one salt has to be a main component, while the other salt is a low-concentration component with a limited concentration range ($1/2 - 1/8$ that of the main component). This is also not disclosed by Bloomer.

Therefore, Claims 17 and 18 are not disclosed by the cited references, and it is respectfully requested that these claims be allowed at this time.

Conclusion

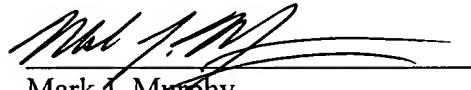
Accordingly, it is respectfully submitted that the present application is in a condition for allowance and should be allowed.

If any fee should be due for this amendment, please charge our deposit account 50/1039.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

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